

Peripheral Nerve

11 June—051. PERIPHERAL NERVE STIMULATION (PNS) IN A PATIENT WITH CAUSALGIC AND ARTERIOPATHIC PAIN IN THE LOWER LIMB: A CLINICAL CASE REPORT

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Introduction: Evaluation of PNS effectiveness in treating causalgic pain in a patient with occlusive arterial disease in the lower extremity, already operated, affected by hypertension and diabetes, with torpid calcaneal lesion of 1.5 mm diameter in the left heel.

Materials/Methods: In January 2013 Z.R., a 76 years old female patient, presented us with sharp pain in the left lower limb and especially at the foot, where she suffered from a torpid 1.5 mm calcaneal ulcer. Surgical therapy (revascularization with stent implantation) and pharmacological treatment (40 mg/day oxycodone and 450 mg/day gabapentin) proved ineffective, the pain was incessant and the patient could not walk. We therefore decided to treat the case with PNS, by implanting an electrode type Surline 150 (Neurimpulse, Rubano, PD, Italy) with surgical approach. The sciatic nerve was exposed at the third middle back of the left thigh, and the lead was positioned and connected to an external Stimulator in the test phase. Stimulation parameters were as follows: frequency 40 Hz, pulse amplitude 0.79 V, pulse width 244 micro sec, impedance 461 Ohm.

Results: At the second day of treatment, the Numeric Rating Scale (NRS) dropped from 10 to 2.5 (p < 0.001) and the patient was able to lean on the foot and walk with braces. The Likert Scale value was 6, further demonstrating a significant pain reduction and the sleep was optimal. The drug dosage was reduced by 75% and the ulcer size decreased to a diameter of 0.5 mm.

Discussion: In causalgic and arteriopathic patients, sciatic nerve direct stimulation can produce better therapeutic results than Spinal Cord Stimulation (SCS) and improve local microcirculation, with redistribution of blood flow in the absence of total volume increase.

Conclusions: PNS can represent a valuable therapeutic tool, in combination with surgery and drug administration, for the treatment of arteriopathic patients. With respect to SCS, it allows a better approach to the target and a lower risk in case of infection, which can be particularly relevant for the medical care of debilitated patients.

Keywords: Peripheral Nerve Stimulation, Chronic Artery Disease, Causalgia

Objectives:

1. The treatment of arteriopathic pain with PNS.
2. Improve of local microcirculation with PNS.
3. The use of PNS in arteriopathic patients in alternative (or in conjunction) with open surgery.

Conflict of Interest Disclosures and Acknowledgements:

I do not have any relevant financial relationships.

